THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

March 06, 2000

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: *09/348,812*
FILING DATE: *July 07, 1999*
PCT APPLICATION NUMBER: *PCT/US00/01456*

By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS

L. EDELEN
Certifying Officer

PRIORITY DOCUMENT

SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)

UTILITY PATENT APPLICATION TRANSMITTAL

ASSISTANT COMMISSIONER OF PATENTS
Box Patent Application
Washington, D.C. 20231

Attorney Docket No. 22947.00100
Prior Application Number
Art Unit
Examiner
PTO Customer Number

Sir:

Transmitted herewith for filing is a utility patent application of

Sashidhar P. Reddi, 135 S. 19th Street, Apt. 1611, Philadelphia, PA 19103

for: METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER

ENCLOSED are the following:

1. ☒ Specification, abstract and claims of <u>21</u> pages.

2. ☒ <u>7</u> sheets of ☒ formal ☐ informal drawings ☐ No drawings.

3. ☒ Declaration (original or copy) signed by the named inventor(s).

4. ☐ Preliminary Amendment

5. ☐ Information Disclosure Statement

6. ☒ Other: Assignment of the invention to <u>ICOOP, Inc.</u>

NOTE the following:

7. ☒ Applicant is a small entity. Small Entity Statement previously filed with Provisional Application
Serial No. 60/116,920 – 50% Filing Fee Reduction (if applicable)

8. ☐ The prior application is assigned to

9. This application is a:
☐ Continuation ☐ Divisional ☐ Continuation-in-Part (CIP) of Prior Application

Filed:

10. ☒ Priority of the following application(s) is (are) claimed under 35 U.S.C. 119:

| Serial No. | Date Filed | Country | Certified Copy of Priority Doc. Filed | |
			USSN or PCT#	Date
60/116,920	January 22, 1999	USA		

11. ☐ An Extension of Time is filed concurrently herewith for the parent application.

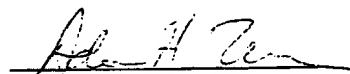12. ☐ Cancel claims _____ prior to calculation of the filing fee.

FILING FEE: calculated below (after accounting for any preliminary amendment or claims cancellations if noted above):

☒	Total Claims	28	Total Claims Subject to Fees: 8	$144.00
☒	Independent Claims	4	Total Claims Subject to Fees: 1	$78.00
☐	Multiple Dependent Claims			$
☒	Basic Filing Fee			$760.00
☐	Extension Fees			$
	Sub-Total			$982.00
☒	Less Small Entity Fee Reduction			$491.00
☒	Assignment Recordal Fees	1		$40.00
	Total Fees			$531.00

☒ Check(s) no. 453076 in the amount of $531.00 is enclosed (must at least cover the basic fee). If no check or an insufficient check is enclosed and a fee is due herewith, the Commissioner is authorized to charge any fee or additional fee due in connection herewith to Deposit Account No. 03-3821, **referencing Attorney Docket No. 22947.00100. A duplicate of this sheet is enclosed.**

☒ The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 CFR § 1.16 or 1.17 to Deposit Account No. 03-3821, **referencing Attorney Docket No. 22947.00100. A duplicate copy of this sheet is enclosed.**

Respectfully submitted,

Date: July 7, 1999

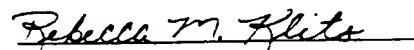By: Adam H. Tachner
Registration No.: 40,343

METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER

Inventor: Sashidhar P. Reddi

CROSS REFERENCE TO RELATED APPLICATIONS

5   This application depends for priority upon U.S. Provisional Patent Application Serial Number 60/116,920, entitled METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS, filed January 22, 1999, which is incorporated herein by reference. Also, this application is related to concurrently filed and

10   copending Application Serial Number <new>, entitled METHOD AND SYSTEM FOR BUYER INITIATED AGGREGATING OF BUYERS TO OBTAIN DESIRED PRODUCTS AT DISCOUNTED PRICES, which is dependent for priority upon U.S. Provisional Patent Application Serial Number 60/116,729, filed January 22, 1999, both of which applications are incorporated herein by

15   reference.

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to electronic commerce and more particularly to forming temporary online communities to aggregate

20   buying power and thereby reduce the purchase price of products of interest to the communities.

Description of the Related Art

Many vendors offer discounts for purchasing in high volumes. Typically the purchasing entity is a large corporation that is purchasing a high volume

25   of a product either for its own consumption or to offer the product for sale to other entities who buy smaller units of the product. It is normally not possible

for an individual buyer or a small company to avail itself of these high volume discounts.

In the physical world, companies such as Sam's Club and Costco allow individuals and small companies to become members of their "purchasing

5   club." Being a member of these clubs allows an individual to benefit from the purchasing power of the entire club membership. There are four important aspects to club membership. First, the membership is an up-front commitment, typically an annual membership with some nominal membership fee. Second, the membership allows the member a lower price on all the

10   products carried by the Club-- that is, typically there is a price advantage over non-members for all products. Next, though a particular product may be offered by multiple vendors, the members do not get directly involved in negotiating with a particular vendor-- the Club negotiates the discount and each member decides whether he would like to buy the product or not at the

15   stated price. Finally, since the negotiation is done directly by the Club, the members typically do not (and, indeed, have no reason to) coordinate their activities to decrease the price they pay for a product. Thus, purchasers taking advantage of the available buying clubs are locked into a pre-defined arrangement and have no direct input into the choice of products offered or

20   the discount available, nor are they able to coordinate their choices with other buyers.

SUMMARY OF THE INVENTION

To address the shortcomings of the available art, the invention allows buyers to aggregate their purchasing power to obtain volume discounts for specific products by using the Internet or a similar wide area network for

5   buyers to coordinate purchasing of a given product and provide a communication and transaction medium for the buyers and the vendors. For example, an embodiment of the invention is a computerized system comprising: a) a Merchandise Submission Form to obtain sale information about a product from a vendor; b) a Bid Submission Form to obtain bid

10   information for the product from a plurality of buyers; c) a Vendor Process Manager to store sale information in a Sale Database; d) a Bid Process Manager to store bid information in a Bid Database; and e) a Sale manager to match bid information and sale information and generate orders for the product. Preferably, the system provides that the vendor employ a volume

15   discount price schedule. The system allows buyers to place and withdraw bids after the Start Time of the sale. After the Hold Time, only new bids and increased bids are allowed. Ideally, both the buyers and the vendor(s) communicate with the system via a wide area network such as the internet. However, other means of submitting and receiving information from the

20   system are possible including automated telephone systems or even direct input and output, such as keyboard, monitor and printer.

In another embodiment, the system comprises a)Vendor Process means for obtaining sale information from a vendor about a product; b) Bid Process

25   means for obtaining bid information for the product from a plurality of buyers; and c) a Sale means for matching bid information and sale information and generating orders for the product. The invention also is a computer-implemented method comprising the steps of a) obtaining sale information about a product from a vendor; b) obtaining bid information for the product

Attorney Docket   - 3 -   Patent
No. 22947.00100

from a plurality of buyers; c) storing and organizing the sale information; d)
storing and organizing the bid information; e) matching bid information and
sale information; and f) generating orders for the product. The invention also
comprises computer-readable media having instructions for carrying out the

5   above steps.

BRIEF DESCRIPTION OF THE DRAWINGS

The aforementioned advantages of the invention, as well as additional advantages thereof, will be more fully understood as a result of a detailed description of a preferred embodiment when taken in conjunction with the accompanying drawings in which:

FIG. 1 is a schematic diagram of the inventive system including databases, managers, and input/output forms;

FIG. 2 is a flow chart illustrating the operation of the Vendor Process Manager of the present invention;

FIG. 3 is a flow chart illustrating the operation of the Bid Process Manager of the present invention;

FIG. 4 is a flow chart illustrating the operation of the Sale Manager of the present invention;

FIG. 5 is a flow chart illustrating the operation of the Invitation Manager of the present invention.

While the invention is susceptible to various modifications and alternative forms, specific embodiments thereof have been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that the detailed description is not intended to limit the invention to the particular forms disclosed. On the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

DETAILED DESCRIPTION OF THE INVENTION

In a preferred embodiment of the present invention, the sale process is divided into three time periods. Once a vendor has submitted information about a product, it is assigned a "Start Time," a "Hold Time" and a "Close
5   Time". After the Start Time, buyers are free to place bids for the product. At the Close Time, any valid bids are processed and the product is sold at the price dictated by the number of bids. The Hold Time freezes a maximum price for the product by requiring users who have an open bid at the Hold Time to honor that bid. After the Hold Time users cannot withdraw or
10   decrease their bids, although they may increase it or add a new bid. Until the Hold Time, the user has complete freedom. Any buyer who had indicated an interest in the product can decide to increase the number of units being bid for, introduce a new bid, decrease the number of units being bid for, or withdraw a bid completely.

15   Multiple vendors are invited to publish a description of the products they offer along with a price schedule that offers the price for a particular volume of the product. For example, a vendor could state a price schedule as illustrated in Table 1:

Number of units purchased at one time	Price per unit
1	$100
5	$95
10	$85
50	$75
100	$65
1000+	$50

Table 1

The above price schedule is quite typical, and might apply to products such as computers, books, CDs, and airline tickets, to name just a few.

In another example, the vendor desires $10,000 for an amount of product up to a set maximum. The vendor specifies, for example, a maximum of 5,000 buyers. Accordingly, the price per buyer is $10,000 divided by the number of buyers up to a maximum of 5,000. While this price schedule is currently not in much use, in the future it could be used as a means of selling products with a fixed cost of production and small or almost zero distribution costs. Examples of such products are research reports, music recordings, films, sporting events, and software. Without the method and system of the present invention, it would not be possible for a vendor to sell a product directly to the consumer using such a price schedule.

The vendor then sets the time frame for the sale by stating that the sale will open at Start Time and end at Close Time. The total number of buyers registered for the sale at Close Time would be aggregated and the final sale price for the product would be computed based on the total number of units for which the buyers have placed an order.

As shown in FIG. 1, one embodiment of the invention comprises a computer system comprising a number of software modules that generally include Forms that allow the input of information from vendors and buyers, Databases that organize and process the buyer and vendor information, and Managers that communicate the information between the Forms and the Databases.

Specifically, the Forms comprise: Merchandise Submission Form 102, which enables vendors to submit information about the products they want to offer; Invitation Submission/Acceptance Form 104, which enables buyers to

invite others to the system and invited buyers to accept the invitation; and Bid Submission Form 106, which enables buyer to submit bids.

The Managers process and control the flow of information from the Forms and the Databases and comprise: Vendor Process Manager 110, which controls the products placed for sale by a vendor; Sale Manager 112, which controls the initiation and the closing of a sale; Invitation Manager 114, which controls the invitation of other potential buyers to join the bidding process for a particular product; and Bid Process manager 116; which controls the buyer's bids for a particular product being offered for sale. Functional details of the Managers are shown in FIGs. 2-5 and described below.

The Databases process the product, vendor and bid information and comprise: Vendor Database 120, which stores information about all the participating vendors; Customer Database 122, which stores information about all the customers registered to participate in online purchasing; Merchandise Description Database 124, which stores information about each product offered for sale; Sales Database 126, which stores information about each sale known to the system; Bid Database 128, which stores all the bids registered by customers for each sale; and Orders Database 130, which stores orders at the consummation of a Sale.

The operation of Vendor Process Manager 110 is illustrated by flow chart in FIG. 2. Generally, a vendor uses Merchandise Submission Form 102 to submit information to Vendor Process Manager 110 to first register himself, if he or she is not already registered. The vendor then submits product information to be stored in the system. These functions are outlined by the following steps. At step 201, the system checks to see if the vendor is registered. This step also authenticates the vendor's identity. Various methods of identifying a vendor are envisioned, including reading the vendor's

network address, and other methods that will be known and understood by those skilled in the art to which the present invention pertains. At step 202, the vendor submits identifying information and registers with the system if the vendor is currently not registered with the system. At step 203, Vendor

5   Process Manager 110 processes information from Merchandise Submission Form 102. Specifically, the information is checked for validity and completeness, including ensuring that the vendor provides a volume-based price schedule for the product. If the vendor fails to provide a volume discount or if the information is incomplete or otherwise incorrect, at step

10   204 the vendor is notified of the error and prompted to correct the information. At step 205 the verified merchandise description is forwarded to Merchandise Description Database 124. Finally, at step 206 the Sales Database 126 is updated with a new sale record containing information about the sale of the new merchandise just added to the Merchandise Description

15   Database 124.

FIGs. 3A and 3B are flow charts illustrating the operation of Bid Process Manager 116, allowing a prospective buyer to register his interest in purchasing a particular product offered for sale by placing a bid for the product. FIG. 3A illustrates that at step 301 the system checks the

20   prospective buyer to see whether he or she is registered with the system. This also includes any authentication steps to verify the customer's identity. Preferably, this could be accomplished using automated identification and authentication processes, as will be understood by those skilled in the art. New customers are registered by submitting the requisite information at step

25   302. At step 303, the customer's instruction to place a new bid in the sale or to increase the number of units in an existing bid is processed if the current time is between the Start Time and the Close Time. Instructions to decrease a bid or withdraw it altogether are processed at step 304 by checking to see

whether the Hold Time for the sale has occurred. At step 305, an error message is returned to the customer if the Hold Time for the sale has passed, informing the customer that the bid cannot be deleted or reduced. If the Hold Time has not passed, the customer's bid is deleted or reduced at step 306

5 accordingly, and Bid Database 128 is updated.

At step 307, Bid Process Manager 116 computes a new price based on the change in bid reflected after step 306. If the user submits a bid identifying the product name and the number of units desired, the price is obtained by adding up the total number of units requested so far and using

10 the vendor's price schedule to calculate the current price. Thus, if 120 units have been requested so far and the vendor is offering a price schedule including 100-120 units for $5.50, then the current price is $5.50 per unit.

If the user submits a bid including product name, number of units desired, and maximum bid price, then the price is obtained by: (i) calculating

15 the total number of units desired thus far; (ii) using the vendor's price schedule to determine the current price; (iii) identifying all bids (matching bids) having a higher maximum bid price than the current price; (iv) computing the total number of units requested by the matching bids and using the vendor's price schedule to find out what the vendor's price would be for that

20 volume; (v) if the price obtained from step (iv) is the same as the current price, then the current price is accurate, if not, then current price is set to the price computed in step (iv) and steps (iii) to (v) are repeated; finally, all bids identified in step (iii) at the termination of the process are the successful bids so far, and the price they would pay is the "current price" computed in step

25 (v). If there are no successful bids at the conclusion of this process, then the current price is simply the list price.

New or increased bids processed at step 303 are verified at step 308, including checking to see whether the bid refers to the product offered in the sale, and if the quantity requested is currently available. The system returns an error message at step 309 if the bid is not validated at step 308.

5   Conversely, as shown in FIG. 3B, validated bids are added to Bid Database 128 in step 310 and Bid Process Manager 116 computes a new price based on the changed quantity of bids in step 311.

FIGs. 4A and 4B illustrated in flow chart form the operation of Sale Manager 112, thereby including the steps taken to initiate a new sale and

10 process the sale until through close. At any one time, every sale in Sale Database 126 is in one of four states: New, Active, Hold, or Closed. New sales are added to Sales Database 126 based on the information obtained through Merchandise Submission Form 102 to Vendor Process Manager 110 as described above. Sale Manager 112 controls the process by which a new

15 sale becomes Active, Held, or Closed.

Specifically, FIG. 4A shows that in step 401, Sale Database 126 is queried for all new sales whose Start Time is at or past the current time. At step 402, all such sales are marked as Active. In step 403, Active sales are communicated to prospective buyers, preferably through a wide area network

20 such as the internet.. This includes retrieving the corresponding merchandise description information from Merchandise Description Database 124 and combining that information with the sale information, formatting all of it appropriately, putting the final description through an approval process that may be automated, and then publishing the information on the web.

25 At step 404, Sale Manager 112 queries Sale Database 126 for all Active sales with a Hold Time at or before the current time. At step 405, the

appropriate sales are marked as Held, locking in the minimum number of bids. At step 406, the Sale database is queried for all Held sales with a Close Time that is at or past the current time, and those found are marked as Closed in step 407 such that no increases or new bids will be accepted.

5   FIG. 4B shows the steps taken to close out a sale. At step 408, Closed sales are identified and, and step 409, queries are made of Bid Database 128 for all outstanding bids corresponding to the Closed sale. At step 410, the final sale price is recomputed in a manner based upon the number of bids and the volume-based price schedule given by the vendor. At step 411, the
10   product vendor's information is obtained from the Vendor Database 120 and a purchase order is constructed for each customer whose bid remained outstanding at the end of the sale. The purchase order will state the number of units bid by the customer and the unit price will be the price calculated at step 410. At step 412, the processed bids are deleted from Bid Database
15   128 and new orders created at step 411 are added to Orders Database 130. Finally, at step 413, the processed sale is deleted from Sale Database 126 and, at step 414, the process returns to step 408 until all closed sales are processed.

       A flow chart for the operation of Invitation Manager 114 is provided in
20   FIG. 5. Generally, customers invite other users to join the system and bid on products. Since the invention is predicated on the aggregation of buying power, it is in the interests of the buyers to recruit as many new buyers as possible. Potential users wishing to accept the invitation use Invitation Manager 114 to do so. The system routes the processes to one of two paths
25   at step 501: steps 502-506 control an invitation sent from a current user to a prospective one, while steps 507-509 allow a prospective user to accept an invitation.

Attorney Docket   - 12 -   Patent
No. 22947.00100

Current users wishing to issue an invitation are first checked at step 502 to determine if they are registered. If not, they are registered and added to Customer Database 122 at step 503. At step 504, the system checks to see whether the invitation is valid. Invitation validity may be determined in a

5 manner dependant upon the prevailing policies in the system, such as that a customer must invite another user to a specific sale only, or that no more than five users may be invited at any given time, or that the customer must fill out certain pieces of information about each user being invited to join. At step 505, an error message is returned if the invitation is not validated at step

10 504. Valid invitations are formatted and then communicated to the desired prospective users at step 506. Suitable means of communication include email, fax, web-posting, postal mail and the like.

Invited users are checked at step 507 to determine whether they are in Customer Database 122. If the invitee is already a registered customer, then

15 Invitation Manager 114 simply reminds the user. Alternatively, at step 508 the requisite information is obtained and the invitee is added to Customer Database 122, thereby registering the user. Preferably, suitable identification of the invitor to the record of the invitee at step 509.

The present inventive system and method for aggregating buyers can

20 be implemented in a number of ways. Different ways have different advantages and disadvantages, but any one of these approaches would afford a low volume buyer the opportunity to gain high volume discounts.

The invention differs from a typical purchasing club in the following ways. First, the buyer is not necessarily required to make an up-front

25 commitment or execute an annual contract with any entity. A buyer who discovers an interest in a particular product can decide to register at that time and place his bid for the product. Second, the aggregation of purchasing

power is for a specific product being bid on and not necessarily for all the products being offered at any given time. For a specific product, the bidding buyer has an opportunity for volume discounts based on how many other people bid for the product. Next, there is no intermediary or other entity that

5 negotiates on behalf of the buyers. Multiple vendors may offer the same product and buyers place a bid with different vendors. The aggregation of their orders with a specific vendor as opposed to another vendor is the forum by which buyers directly negotiate how they wish to purchase a particular product. Finally, since the final price paid for a product depends entirely on

10 the action of the temporary buying community that is created online, there is every reason for buyers to coordinate their actions. In fact, buyers may invite other prospective buyers who may not be aware of the existence of this vendor or product to join the community. This coordinated buying effort has a direct impact on the final price paid by the temporary buying community for

15 that product.

The invention has significant differences from other e-commerce approaches. For example, in standard e-commerce a vendor places products for sale, usually with just one price. An interested buyer can purchase the

20 product online. Even in the cases that a vendor posts a volume based price schedule, it is always meant to apply to a single buyer who may buy multiple units to take advantage of the volume discount. This approach to e-commerce does not address how a low volume buyer can take advantage of the volume discount without having to personally buy more units of the product. In

25 another example, the Internet has popularized auction sites. Typically, multiple buyers bid competitively against each other for a given product. Under this model, the aggregation of buyers actually increases prices. In contrast, the invention described here lowers prices by aggregating buyers.

The present invention therefore provides a novel method and system for low volume buyers to aggregate purchasing power to gain high volume discounts. Although the present invention has been shown and described with respect to preferred embodiments, various changes and modifications lie

5   within the spirit and scope of the claimed invention. For example, items bid upon need not be intended for immediate delivery, but may instead be for a contract to take deliver of an amount of product over a period of time, such as a five percent discount for 1000 tons of product over three years and a ten percent discount for 2000 pounds of product over three years. The vendor

10   may further require a minimum tonnage requirement over a specified time period to bid, and discounts may vary based on any of the variables – such as amount, time to delivery, or price. Thus, the corresponding structures, materials, acts, and equivalents of all means or step plus function elements in the claims are intended to include any structure, material, or acts for

15   performing the functions in combination with other elements as specifically claimed.

What is claimed is:

1   1.   A computerized system for aggregating purchasing power

2 comprising:

3   a)   a Merchandise Submission Form to obtain sale information

4 about a product from a vendor;

5   b)   a Bid Submission Form to obtain bid information for the product

6 from a plurality of buyers;

7   c)   a Vendor Process Manager to store sale information in a Sale

8 Database;

9   d)   a Bid Process Manager to store bid information in a Bid

10 Database; and

11   e)   a Sale manager to match bid information and sale information

12 and generate orders for the product.

1   2.   The computerized system of claim 1 wherein the Vendor Process

2 Manager requires a volume discount price schedule.

1   3.   The computerized system of claim 1 further comprising an Invitation

2 Manager to issue buying invitations to prospective buyers and accept buying

3 invitations from prospective buyers.

1   4.   The computerized system of claim 3 further comprising an Invitation

2 Submission/Acceptance Form to obtain information for the Invitation Manager.

1   5.   The computerized system of claim 1, wherein the Bid Process

2 Manager allows new bids, increased bids, decreased bids and withdrawn bids for

3 the product between a Start Time and a Close Time.

1   6.   The computerized system of claim 4, wherein the Bid Process

2 Manager prevents decreased bids and withdrawn bids after a Hold Time occurring

3 between the Start Time and the Close Time.

1   7.   The computerized system of claim 1, wherein buyers and the vendor

2 submit and receive information from the computerized system by way of a wide

3 area network.

1   8.   The computerized system of claim 7, wherein the wide area network

2 comprises the internet.

1   9.   The computerized system of claim 1, further comprising a

2 Merchandise Description Database to store product information and a Vendor

3 Database to store vendor information obtained from the Merchandise Submission

4 Form.

1   10.   A computerized system for aggregating purchasing power

2 comprising:

3   a)   Vendor Process means for obtaining sale information from a

4   vendor about a product;

5   b)   Bid Process means for obtaining bid information for the product

6   from a plurality of buyers; and

7   c)   a Sale means for matching bid information and sale information

8   and generate orders for the product.

1   11.   The computerized system of claim 10 wherein the Vendor Process

2 means requires a volume discount price schedule.

1   12.   The computerized system of claim 10 further comprising an Invitation
2   means for issuing buying invitations to prospective buyers and accepting buying
3   invitations from prospective buyers.

1   13.   The computerized system of claim 10, wherein the Bid Process
2   means further comprises means to allow new bids, increased bids, decreased bids
3   and withdrawn bids for the product between a Start Time and a Close Time.

1   14.   The computerized system of claim 13, wherein the Bid Process
2   means prevents decreased bids and withdrawn bids after a Hold Time occurring
3   between the Start Time and the Close Time.

1   15.   The computerized system of claim 10, wherein the Bid Process means
2   and the Vendor Process means transmits information between the system and the
3   vendor and the buyers over a wide area network.

1   16.   The computerized system of claim 15, wherein the wide are network
2   comprises the internet.

1   17..   A computer-implemented method for aggregating purchasing power
2   comprising the steps of:
3   a)   obtaining sale information about a product from a vendor;
4   b)   obtaining bid information for the product from a plurality of
5   buyers;
6   c)   storing and organizing the sale information;
7   d)   storing and organizing the bid information;
8   e)   matching bid information and sale information; and
9   f)   generating orders for the product.

1   18.   The method of claim 17, wherein the step of obtaining sale

2 information further comprises obtaining a volume discount price schedule.

1   19.   The method of claim 17, further comprising the steps of obtaining

2 invitation information about prospective buyers and issuing invitations to the

3 prospective buyers.

1   20.   The method of claim 17, wherein the step of obtaining bid

2 information allows new bids, increased bids, decreased bids and withdrawn bids

3 for the product between a Start Time and a Close Time.

1   21.   The method of claim 20, wherein the step of obtaining bid

2 information prevents decreased bids and withdrawn bids after a Hold Time

3 occurring between the Start Time and the Close Time.

1   22.   The method of claim 17, wherein buyers and the vendor submit and

2 receive information from the computerized system by way of a wide area network.

1   23.   A computer-readable medium containing instructions for controlling a

2 computer to aggregate purchasing power by:

3   a)   obtaining sale information about a product from a vendor;

4   b)   obtaining bid information for the product from a plurality of

5 buyers;

6   c)   storing and organizing the sale information;

7   d)   storing and organizing the bid information;

8   e)   matching bid information and sale information; and

9   f)   generating orders for the product.

1   24.   The computer-readable medium of claim 23, wherein the instructions

2   for obtaining sale information further comprise obtaining a volume discount price

3   schedule.

1   25.   The computer-readable medium of claim 23, further comprising

2   instructions for obtaining invitation information about prospective buyers and

3   issuing invitations to the prospective buyers.

1   26.   The computer-readable medium of claim 23, wherein the instructions

2   for obtaining bid information allow new bids, increased bids, decreased bids and

3   withdrawn bids for the product between a Start Time and a Close Time.

1   27.   The method of claim 26, wherein the instructions for obtaining bid

2   information prevent decreased bids and withdrawn bids after a Hold Time occurring

3   between the Start Time and the Close Time.

1   28.   The computer-readable medium of claim 23, further comprising

2   instructions for storing product information and for storing vendor information.

METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO
AGGREGATE PURCHASING POWER

Inventor: Sashidhar P. Reddi

ABSTRACT

5

A method and system for low volume buyers to aggregate their purchasing power to gain high volume discounts. Vendors display information about their products and services along with a price schedule that provides greater discounts for bigger volume of purchases. For example, buying 1 unit costs $100 per unit, 10 units would cost $90 per unit, and 1000 units cost $60 per unit. Another example of a volume discount is the price paid by each buyer is the total value demanded by the vendor divided equally between all interested buyers. Buyers then aggregate online to take advantage of these volume discounts. Unlike an auction model, where more buyers mean higher prices, here more buyers lead to lower prices.

10

15

12155970

COMBINED DECLARATION FOR PATENT APPLICATION
AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE
PURCHASING POWER

the specification of which (check one) _X_ is attached hereto or ___ was filed on _____ as Application No. _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information which is material to patentability as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

<u>Priority Claimed</u>

			<u>Yes</u>	<u>No</u>

Number	Country	Day/Month/Year Filed

Number	Country	Day/Month/Year Filed

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) below.

Application Number	Filing Date

Application Number	Filing Date

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose all information which is material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Application Number	Filing Date	Status: Patented, Pending, Abandoned

Application Number	Filing Date	Status: Patented, Pending, Abandoned

I HEREBY APPOINT THE FOLLOWING AS MY ATTORNEYS WITH FULL POWER OF SUBSTITUTION TO PROSECUTE THIS APPLICATION AND TRANSACT ALL BUSINESS IN THE PATENT OFFICE CONNECTED THEREWITH:

Attorney	Reg. No.
Philip M. Shaw, Jr.	25,376
Adam H. Tachner	40,343
J. William Wigert	24,582
Malcolm B. Wittenberg	27,028
Nathan P. Koenig	38,210
Ying Tuo	38,789

Send correspondence to: Adam H. Tachner
CROSBY, HEAFEY, ROACH & MAY
P.O. Box 7936
San Francisco, CA 94120-7936
DID Ph.: 415-659-5911
Ph.: 415-543-8700
Fax: 415-391-8269

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Sashidhar P. Reddi

Inventor's signature _____ 07/02/99
                                                    Date

Residence 135 S. 19th Street, #1611, Philadelphia, PA 19103

Citizenship India

Post Office Address 135 S. 19th Street, #1611, Philadelphia, PA 19103

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of:

Sashidhar P. Reddi

For: METHOD AND SYSTEM FOR LOW VOLUME BUYERS-TO AGGREGATE PURCHASING POWER

Serial No. {new}

Filed: Herewith

Examiner:

Group Art Unit:

POWER OF ATTORNEY BY ASSIGNEE

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

ICOOP, Inc., Assignee of the above-identified application by assigned dated July 2, 1999 _____, hereby appoints the members of the firm of CROSBY, HEAFEY, ROACH 7 MAY, a firm composed of Malcolm B. Wittenberg, Registration No. 27,028, Philip M. Shaw, Jr., Registration No. 25,376, J. William Wigert, Jr., Registration No. 24,582, Nathan P. Koenig, Registration No. 38,210, Adam H. Tachner, Registration No. 40,343, and Ying Tuo, Registration No. 38,789, as its attorneys with full power of substitution to prosecute this application and to transact all business in the Patent and Trademark Office in connection therewith.

Please direct all correspondence regarding this application to the following:

Crosby, Heafey, Roach & May
Attention: Adam H. Tachner
Four Embarcadero Center, Suite 1900
P.O. Box 7936
San Francisco, California 94120-7936
Telephone: (415) 543-8700
Fax: (415) 391-8269

Power of Attorney
By Assignee

1

Serial No. {new}

The undersigned has reviewed the original or a copy of any documents(s) filed in the Patent and Trademark Office which evidence that the Assignee holds title to the above-identified application. The undersigned certifies that, to the best of Assignee's knowledge and belief, title to this invention is in the Assignee. 37 C.F.R. § 3.73(b).

ICOOP, Inc.

Dated: _07/02/_, 1999   By: _____

Name: _Sashidhar P. Reddi_____

Title: _Chairman_____

FIG. 1
OVERALL SYSTEM

START

(201) REGISTERED VENDOR ?

NO

(202) ADD VENDOR RECORD TO VENDOR DATABASE

YES

(203) DOES MERCHANDISE DESCRIPTION INCLUDE VOLUME DISCOUNTS ?

NO

(204) RETURN ERROR MESSAGE TO VENDOR

RETURN

YES

(205) ADD MERCHANDISE DESCRIPTION TO MERCHANDISE DESCRIPTION DATABASE

(206) ADD NEW SALE TO SALE DATABASE

RETURN

FIG. 2
VENDOR PROCESS MANAGER

START

(301) DOES CUSTOMER RECORD EXIST ?

NO → (302) ADD CUSTOMER RECORD TO CUSTOMER DATABASE

YES

(303) ADD NEW BID OR INCREASE NUMBER OF UNITS BEING BID?

NO → (304) IS SALE MARKED "HOLD" ?

YES → (305) RETURN "ERROR" MESSAGE TO CUSTOMER → RETURN

NO → (306) DELETE / REDUCE BID UNITS AS REQUESTED FROM BID DATABASE

(307) CALCULATE CURRENT PRICE BASED ON TOTAL NUMBER OF BIDS FOR THAT ITEM

RETURN

YES → (308) IS BID VALID ?

YES → (A)

NO → (309) RETURN ERROR MESSAGE TO CUSTOMER → RETURN

FIG. 3 A
BID PROCESS MANAGER

A

(310)
PUT NEW BID IN
THE BID DATABASE

(311)
CALCULATE
CURRENT PRICE
BASED ON TOTAL
NUMBER OF BIDS
FOR THAT SALE

RETURN

FIG. 3B
BID PROCESS MANAGER

```
        ┌─────────┐
        │  START  │
        └────┬────┘
             │
             ▼
┌──────────────────────────┐
│ (401) QUERY SALE         │
│ DATABASE                 │
│ FOR "NEW SALES" WITH     │
│ EFFECTIVE TIME <=        │
│ CURRENT TIME             │
└────────────┬─────────────┘
             │
             ▼
┌──────────────────────────┐
│ (402)                    │
│ MARK RESULTING SALES     │
│ AS "ACTIVE"              │
└────────────┬─────────────┘
             │
             ▼
┌──────────────────────────┐
│ (403)                    │
│ POST CORRESPONDING       │
│ MERCHANDISE TO WEB       │
│ SITE                     │
└────────────┬─────────────┘
             │
             ▼
┌──────────────────────────┐
│ (404) QUERY SALES        │
│ DATABASE                 │
│ FOR "ACTIVE" SALES WITH  │
│ HOLD TIME >= CURRENT     │
│ TIME                     │
└────────────┬─────────────┘
             │
             ▼
┌──────────────────────────┐
│ (405) MARK RESULTING     │
│ SALES                    │
│ AS "HOLD"                │
└────────────┬─────────────┘
             │
             ▼
┌──────────────────────────┐
│ (406) QUERY SALE         │
│ DATABASE                 │
│ FOR "HOLD" SALES WITH    │
│ CLOSING TIME >=          │
│ CURRENT TIME             │
└────────────┬─────────────┘
             │
             ▼
┌──────────────────────────┐           ┌───┐
│ (407)                    │──────────▶│ B │
│ MARK RESULTING SALES     │           └───┘
│ AS "CLOSED"              │
└──────────────────────────┘
```

FIG. 4 A
SALE MANAGER

```
                                    (408)                    ◄──────  Ⓑ
                                    SELECT FIRST "CLOSED"
                                    SALE
                                      │
                                      ▼
                                    (409)
                                    QUERY BID DATABASE
                                    FOR ALL BIDS FOR THAT
                                    SALE
                                      │
                                      ▼
                                    (410) COMPUTE SALE
                                    PRICE BASED ON NUMBER
                                    OF BIDS AND PRICE
                                    SCHEDULE
                                      │
                                      ▼
                                    (411) ISSUE ORDERS TO
                                    VENDOR FOR THAT
                                    NUMBER OF UNITS AT
                                    SALE PRICE
                                      │
                                      ▼
                                    (412) DELETE BIDS FROM
                                    BID DATABASE AND
                                    PLACE IN ORDERS
                                    DATABASE
                                      │
                                      ▼
                                    (413) REMOVE SALE FROM
                                    SALE DATABASE
                                      │
                                      ▼
                 YES                  ◇
                                    (414) ANY
                                    MORE
                                    "CLOSED"
                                    SALES ?
                                      │
                                      NO
                                      ▼
                                  ( RETURN )
```

FIG. 4 β
SALE MANAGER

START

ACCEPTANCE

(501)
FORM TYPE ?

(507)
REGISTERED
CUSTOMER ?

YES

RETURN

NO

SUBMISSION

(508)
ADD
CUSTOMER TO
CUSTOMER
DATABASE

NO

(503)
ADD TO
CUSTOMER
DATABASE

(502)
REGISTERED
CUSTOMER ?

YES

(509)
ADD "INVITOR
ID " TO
CUSTOMER
RECORD

RETURN

(504)
VALID
SUBMISSION ?

NO

(505)
RETURN
ERROR
MESSAGE

RETURN

YES

(506)
SEND OUT
INVITATION

RETURN

FIG. 5
INVITATION MANAGER

P1 211179

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

March 06, 2000

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM
THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK
OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT
APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A
FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: *60/116,920*
FILING DATE: *January 22, 1999*
PCT APPLICATION NUMBER: *PCT/US00/01456*

By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS

L. EDELEN
Certifying Officer

PRIORITY
DOCUMENT
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

CROSBY, HEAFEY, ROACH & MAY
4 Embarcadero Ctr., Ste. 1900, P.O. Box 7936, San Francisco, CA 94120-7936
(415) 543-8700

Attorney's Docket No. 22947.00100

NEW PROVISIONAL PATENT APPLICATION TRANSMITTAL

Honorable Commissioner of Patents and Trademarks
Box Provisional Patent Application
Washington, D.C. 20231

SIR:
Transmitted herewith for filing is the provisional patent application of Inventors:

Sashidhar P. Reddi, 135 S. 19th Street, Apt. 1611, Philadelphia, PA 19103

Title: METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being deposited with the United States Postal Service on this date January 22, 1999, in an envelope bearing "Express Mail Post Office To Addressee" Mailing Label Number EM500427061 US addressed to: Box Provisional Patent Application, Commissioner, US Patent & Trademark Office, 2011 Jefferson Davis Hwy., Washington, D.C. 20231-0002.

Rebecca M. Klits   _Rebecca M. Klits_
(Name of Person Signing)   Signature

Enclosed are:

1. The papers required for filing date under 37 C.F.R. § 1.53(b)(2):
   _12_   Pages of specification (including claims);
   _7_   Sheets of drawings.
        _X_   formal
        ____ informal

2. ____   Power of Attorney
3. ____   Assignment of the invention to

4. Fee Calculation

      Provisional Filing Fee $150.00

5. _X_   Small Entity Statement - verified statement enclosed (unsigned) $75.00
           50% Filing Fee Reduction (if applicable) . . . .

6. Other Fees
           Recording Assignment [$40.00] . . . . $
           Other fees . . . . $
           Specify _____

      Total Fees Enclosed $75.00

7. Payment of Fees
           Check(s) no. in the amount of $_____ enclosed.
      _X_ Charge Deposit Account No. 03-3821 in the amount of $75.00 referencing Attorney Docket No. 22947.00100
           A duplicate of this transmittal is attached.

8. _X_   Authorization to Charge Additional Fees
           The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 03-3821 referencing Attorney Docket No. 22947.00100. A duplicate sheet is attached.

9. _X_   Return Receipt Postcard
10. ____   Other: Specify _____

Respectfully submitted,

Dated: January 22, 1999

CROSBY, HEAFEY, ROACH & MAY
Professional Corporation

By: _____
Name: Adam H. Tachner
Registration No. 40,343

12044309

Transmittal - New Application   - 1 -
Weissman-1

METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS

Inventor: Sashidhar P. Reddi

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to electronic commerce and more particularly to forming temporary online communities that aggregate their buying power to reduce the purchase price of products of interest to the community.

2. Description of the Related Art

Many vendors offer discounts for purchasing in high volumes. Typically the purchasing entity is a large corporation that is purchasing a high volume of a product either for its own consumption or to offer the product for sale to other entities who buy smaller units of the product. It is not possible for an individual buyer or a small company to avail of these high volume discounts.

In the physical world, companies such as Sam's Club and Costco, allow individuals and small companies to become members of their "purchasing club"– being a member of these clubs would allow an individual to benefit from the purchasing power of the entire club. There are four important aspects to this membership:

the membership is an up-front commitment, typically an annual membership with some nominal membership fee.

the membership allows the member a lower price on all the products carried by the Club– that is, typically there is a price advantage over non-members for all products.

though a particular product may be offered by multiple vendors, the members do not directly get involved with negotiating with a particular vendor– the Club negotiates the discount and each member decides whether he would like to buy the product or not at the stated price.

since the negotiation is done directly by the Club, the members typically do not, and indeed have no reason, to coordinate their activities to improve the price they pay for a product.

SUMMARY OF THE INVENTION

To address the shortcomings of the available art, the new method allows buyers to aggregate their purchasing power to avail of volume discounts for specific products. The new system uses the internet for buyers to coordinate their purchasing of a given product. Specifically,

Multiple vendors publish a description of the products they offer along with a price schedule that offers the price for a particular volume of the product. For example, a vendor could state a price schedule that looks as follows:

Number of units purchased at one time	Price per unit
1	$100
5	$95
10	$85
50	$75
100	$65
$1000+	$50

The above price schedule is quite typical and applies to many products including computers, books, CDs, airline tickets, etc.

Another example of a price schedule could be:

Amount desired by the vendor for the product: $10,000
Maximum number of buyers allowed for the product: 5,000
Price per buyer = $10,000 divided by the number of buyers, with a limit of 5,000 buyers.

The above price schedule is currently not in much use but in the future could be used as a means of selling products with a fixed cost of production and small or almost zero distribution costs. Examples of such products are research reports, music recordings, films, sporting events, among many others. Without the present invention, it is not possible for a vendor to sell a product directly to the consumer using such a price schedule.

The vendor would set the time frame for the sale by stating that the sale would open at "Opening-Time" and end at "Closing-Time". The total number of buyers registered for the sale at Closing-Time would be aggregated and the final sale price for the product would be computed based on the total number of units for which the buyers have placed an order.

The new method of aggregating buyers can be implemented in a number of ways. Different ways have different advantages and disadvantages, but any one of these approaches would afford a low volume buyer the opportunity to gain high volume discounts.

The new method differs from a typical purchasing club in the following ways:

there is no up-front commitment or an annual contract with any entity. A buyer who discovers an interest in a particular product can decide to get registered at that time and place his bid for the product.

the aggregation of purchasing power is for a specific product that is being bid on and not for all the products that are being offered. For that specific product, the bidding buyer has an opportunity for volume discounts based on how many other people bid for the product.

here there is no intermediary entity that negotiates on behalf of the buyers. Multiple vendors may offer the same product and buyers place a bid with different vendors. The aggregation of their orders with a specific vendor as opposed to another vendor is the forum by which buyers directly negotiate how they wish to purchase a particular product.

since the final price paid for a product depends entirely on the action of the temporary buying community that is created online, there is every reason for buyers to coordinate their actions. In fact, buyers may invite other prospective buyers who may not be aware of the existence of this vendor or product to join the community. This coordinated buying effort has a direct impact on the final price paid by the temporary buying community for that product.

The new method has significant differences from other ecommerce approaches.

Standard ecommerce: A vendor places products for sale, usually with just one price. An interested buyer can purchase the product online. Even in the cases that a vendor posts a volume based price schedule, it is always meant to apply to a single buyer who may buy multiple units to take advantage of the volume discount. This approach to ecommerce does not address how a low volume buyer can take advantage of the volume discount without having to personally buy more units of the product.

Auction site: This popular approach to ecommerce is based on multiple buyers bidding competitively against each other for a given product. So an aggregation of buyers leads to higher prices. In contrast, the method proposed here is based on a way to lower prices by aggregating buyers.

BRIEF DESCRIPTION OF THE DRAWINGS

The aforementioned advantages of the invention, as well as additional advantages thereof, will be more fully understood as a result of a detailed description of a preferred embodiment when taken in conjunction with the accompanying drawings in which.

FIG. 1 illustrates the overall computer system comprised of databases, processes, and input/output forms;

FIG. 2 illustrates the Vendor Process Manager;

FIG. 3 illustrates the Bid Process Manager;

FIG. 4 illustrates the Sale Manager;

FIG. 5 illustrates the Invitation Manager

DESCRIPTION OF THE DRAWINGS FOR PREFERRED EMBODIMENT

Described herein is a preferred embodiment, however, one skilled in the art that pertains to the present invention will understand that there are equivalent alternative embodiments.

The new method could be implemented by a system where there is a time "Hold-Time" such that any buyers who were registered at the Hold-Time cannot withdraw their "bid" for the product. Until the Hold-Time any buyer who had indicated an interest in the product can decide to:

increase the number of units being bid,
introduce a new bid
decrease the number of units being bid or
withdraw his bid completely.

After the Hold-Time, any interested buyer can:

increase the number of units being bid,
introduce a new bid

FIG. 1

FIG. 1 describes the overall system comprised of the following entities:

Entity 102
The "Merchandise Submission Form" allows vendors to submit information about the products they want to offer.

Entity 104
The "Invitation Submission Form" allow users to invite others to the system and the "Invitation Acceptance Form" allows invited users to accept the invitation.

Entity 106
The "Bid Submission Form" allows a customer to submit a bid for a product.

Entity 110
A "Vendor Process Manager" (described in detail in FIG. 2) that enables a Vendor to list a product for sale.

Entity 112
A "Sale Manager" (described in detail in FIG. 4) that manages the initiation and the closing of a Sale.

Entity 114
An "Invitation Manager" (described in detail in FIG. 5) that enables a customer to invite other potential customers to join the bidding process for a particular product.

Entity 116
A "Bid Process manager" (described in detail in FIG. 3) to enable a potential customer to place a bid for a particular product being offered for sale.

Entity 120
A "Vendor" database that stores information about all the participating vendors.

Entity 122
A "Customer" database that stores information about all the customers registered to participate in online purchasing.

Entity 124
A "Merchandise Description" database for storing information about each product that is being offered for sale.

Entity 126
A "Sales" database that stores information about each "Sale" that is known to the system. A Sale is an activity with an "Opening-Time", "Hold-Time", and a "Closing-Time" for a product being offered by a vendor, with the description stored in the Merchandise Description database.

Entity 128
A "Bid" database that stores all the bids registered by customers for each Sale.

Entity 130
An "Orders" database that stores all the orders at the consummation of a Sale.

FIG. 2

FIG. 2 describes the Vendor Process Manager.

A vendor with a completed merchandise description form would use the Vendor Process Manager to (1) register himself, if he's not already registered and (2) submit his product information to be stored in the system.

Step 201
The system checks to see if the vendor is registered. This step also comprises of authenticating the vendor to see if he is who he says he is. This also includes various ways of identifying a vendor including reading his network address etc.

Step 202
If the vendor is currently not registered with the system, the vendor submits his information and registers himself with the system.

Step 203
The registered vendor submits the completed merchandise description form to the system. The form is checked for validity and completeness including ensuring that the vendor provides a volume based price schedule for the product.

Step 204
If the merchandise description form does not contain all the requisite information or deals with products not acceptable to the system, an error message is sent to the submitting vendor.

Step 205
A merchandise description that passes the check is stored in the Merchandise Description database.

Step 206
The Sale database is updated with a new Sale record, that contains information about the sale of the new merchandise whose description has just been added to the Merchandise Description database.

FIG. 3

FIG. 3 describes the Bid Process Manager.

A prospective buyer can register his interest in purchasing a particular product offered in a Sale by placing a bid for the product. This is done using the Bid Process Manager.

Step 301
The prospective buyer, referred to also as a customer, is checked to see whether he is registered with the system. This also includes any authentication steps to ensure that the customer is who he says he is. This could also be accomplished using automated identification and authentication processes.

Step 302
If the customer is not registered with the system, his information is added to the Customer database and he is registered with the system.

Step 303
If the registered customer wishes to place a new bid in the Sale or to increase the number of units in an existing bid, he can do so at any time from the time that the Sale opens to the time that it closes. However, if he wishes to delete an existing bid or reduce the number of units being bid on then the system checks to see if the Sale is now in a "Hold" status.

Step 304
The system checks to see if the Sale is marked "Hold".

Step 305
If the Sale is marked "Hold" then the customer cannot delete or reduce his bid and hence the system returns an error message to the customer.

Step 306
If the Sale is not on "Hold" then the customer's bid is deleted or reduced as requested. The Bid database is updated accordingly.

Step 307
Since there is a change in the total number of units being bid for in the Sale, the current price of the product is calculated based on the total number of outstanding bids at the current time and the volume based price schedule.

Step 308
If the customer were trying to add a new bid or modify an existing one, the bid is checked for validity. This includes checking to see if the bid refers to the product offered in the Sale, and for quantities that are currently available.

Step 309
If the bid is not valid for any reason an error message is sent out to the customer.

Step 310
If the bid is valid, the Bid database is updated with the new bid.

Step 311
Since the total number of units being bid has changed, the current price of the product is calculated using the total number of units currently being bid and the volume based price schedule.

FIG. 4

FIG. 4 describes the Sale Manager.

The Sale Manager describes the steps taken to initiate a new Sale to the steps to close out a Sale. Every Sale in the Sale database is in one of four different states: (1) New (2) Active (3) Hold and (4) Closed. Vendors add new Sales to the Sales database. The Sale Manager then manages the process by which a new Sale becomes Active, Hold, or Closed.

Step 401
The Sale database is queried for all new Sales whose "Effective Time" is at or past the current time.

Step 402
All such new Sales are now marked as "Active".

Step 403
These newly Active Sales are posted to the web. This includes getting the corresponding merchandise description from the Merchandise Description database and combining that with the Sale information, formatting all of it appropriately, putting the final description through an approval process that may be automated, and then publishing the information on to the web.

Step 404
The system queries the Sale database for all Active Sales with a "Hold" time that is at or past the current time.

Step 405
The resulting Sales are marked "Hold". So customers with an interest in products offered by these Sales now marked Hold cannot delete or reduce their bids for the products offered in these Sales.

Step 406
The system queries the Sale database for all "Hold" Sales with a Closing Time that is at or past the current time.

Step 407
The resulting Sales are marked "Closed". This means that customers can no longer bid on the products offered in those Sales.

Step 408
For each Sale that has just been marked "Closed" the system processes the Sale. The processing steps are described in Steps 9 through 13.

Step 409
For a given closed Sale, all the outstanding bids are obtained from the Bid database.

Step 410
The final sale price of the product is computed by using the total number of units being bid for and the volume based price schedule.

Step 411
The product vendor's information is obtained from the Vendor database. A purchase order is constructed for each customer whose bid remained outstanding at the end of the Sale. The purchase order will state the number of units bid by the customer and the unit price will be the price calculated in Step 10.

Step 412
All the bids that have been processed will be deleted from the Bid database. The newly created orders, for which purchase orders were generated in Step 11, are added to the Orders database.

Step 413
The processed Sale is now deleted from the Sale database.

Step 414
The Steps 9-13 are repeated until there are no more Closed Sales to process.

FIG. 5

FIG. 5 describes the Invitation Manager.

The Invitation Manager is used by customers to invite other users to join the system and bid on products. Users wishing to accept the invitation use the Invitation Manager to do so.

Step 501
Users may submit one of two forms: (1) an invitation submission form or (2) an invitation acceptance form. If a customer wishes to submit an invitation, he is taken through Steps 2-6. If an user wishes to accept an invitation, he is taken through Steps 7-9.

Step 502
Only a registered customer can invite other users. So the system checks to see if the customer is registered. This step includes authenticating the customer.

Step 503
If the customer is not registered, he may provide his information and get registered with the system. The customer information is then added to the Customer database.

Step 504
A registered customer can submit an invitation. The system checks to see if the invitation is valid. The validity could be based on the prevailing policies in the system such as that a customer must invite another user to a specific Sale only or that no more than 5 users may be invited at any given time or that the customer must fill out certain pieces of information about each user being invited to join.

Step 505
If the invitation is not valid the customer is sent an error message.

Step 506
If the invitation is valid, it is appropriately formatted and set up for the means of communication, and then sent out by those means. This could be in the form of email, fax, or postal mail.

Step 507
If a user wishes to accept an invitation that he received, the system checks to see if the user is already registered in the system. If he is already a registered customer, then the system just reminds the user that he is already registered.

Step 508
If the user is not registered with the system, then his information is added to the Customer database and he is registered with the system.

Step 509
To the database record of the new customer, the ID (identification number or some other system method of identification) of the customer who invited the current customer is added. The inviting customer is referred to as the "Invitor".

METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS

Inventor: Sashi P. Reddi

ABSTRACT

A method and system for low volume buyers to aggregate their purchasing power to gain high volume discounts. Vendors display information about their products and services along with a price schedule that provides greater discounts for bigger volume of purchases. For example, buying 1 unit costs $100 per unit, 10 units would cost $90 per unit, and 1000 units cost $60 per unit. Another example of a volume discount is the price paid by each buyer is the total value demanded by the vendor divided equally between all interested buyers. Buyers then aggregate online to take advantage of these volume discounts. Unlike an auction model, where more buyers mean higher prices, here more buyers lead to lower prices.

Applicant or Patentee: Sashidhar P. Reddi
Serial or Patent No.: (new)
Filed or Issued: Herewith
For: METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS

Attorney Docket No.:
22947.0C100 - PATENT

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR §§ 1.9(f)) -- INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR § 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS described in

[X] the specification filed herewith.
[] the application identified above.
[] the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR § 1.9(d) or a nonprofit organization under 37 CFR § 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

[X] no such person, concern, or organization
[] persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR § 1.27).

FULL NAME _____
ADDRESS _____
[] Individual   [] Small Business Concern   [] Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR § 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Sashidhar P. Reddi

_____
Signature

_____
Date

12044319

FIG. 1
OVERALL SYSTEM

START

(201)
REGISTERED
VENDOR ?

NO

(202)
ADD VENDOR RECORD
TO VENDOR DATABASE

YES

(203) DOES
MERCHANDISE
DESCRIPTION
INCLUDE VOLUME
DISCOUNTS ?

NO

(204)
RETURN ERROR
MESSAGE TO VENDOR

RETURN

YES

(205) ADD
MERCHANDISE
DESCRIPTION TO
MERCHANDISE
DESCRIPTION
DATABASE

(206)
ADD NEW SALE TO
SALE DATABASE

RETURN

FIG. 2
VENDOR PROCESS MANAGER

START

(302)
ADD CUSTOMER
RECORD
TO CUSTOMER
DATABASE

NO

(301)
DOES CUSTOMER
RECORD EXIST ?

YES

(303)
ADD NEW BID OR
INCREASE
NUMBER OF UNITS
BEING BID?

NO

(304)
IS SALE
MARKED
"HOLD" ?

YES

(305) RETURN
"ERROR"
MESSAGE TO
CUSTOMER

RETURN

NO

YES

(306) DELETE /
REDUCE
BID UNITS AS
REQUESTED FROM
BID DATABASE

(307) CALCULATE
CURRENT PRICE
BASED ON TOTAL
NUMBER OF BIDS
FOR THAT

RETURN

YES

(308)
IS BID VALID ?

NO

(309)
RETURN ERROR
MESSAGE TO
CUSTOMER

RETURN

FIG. 3A
BID PROCESS MANAGER

```
         ┌─────┐
         │  1  │
         └──┬──┘
            │
            ▼
┌───────────────────────┐
│ (310)                 │
│ PUT NEW BID IN        │
│ THE BID DATABASE      │
└───────────┬───────────┘
            │
            ▼
┌───────────────────────┐
│ (311)                 │
│ CALCULATE             │
│ CURRENT PRICE         │
│ BASED ON TOTAL        │
│ NUMBER OF BIDS        │
│ FOR THAT SALE         │
│ SALE                  │
└───────────┬───────────┘
            │
            ▼
      ╭───────────╮
      │  RETURN   │
      ╰───────────╯
```

FIG. 3B
BID PROCESS MANAGER

START

(401) QUERY SALE
DATABASE
FOR "NEW SALES" WITH
EFFECTIVE TIME <=
CURRENT TIME

(402)
MARK RESULTING SALES
AS "ACTIVE"

(403)
POST CORRESPONDING
MERCHANDISE TO WEB
SITE

(404) QUERY SALES
DATABASE
FOR "ACTIVE" SALES WITH
HOLD TIME >= CURRENT
TIME

(405) MARK RESULTING
SALES
AS "HOLD"

(406) QUERY SALE
DATABASE
FOR "HOLD" SALES WITH
CLOSING TIME >=
CURRENT TIME

(407)
MARK RESULTING SALES
AS "CLOSED"

1

FIG. 4 A
SALE MANAGER

(408)
SELECT FIRST "CLOSED" SALE

(409)
QUERY BID DATABASE FOR ALL BIDS FOR THAT SALE

(410) COMPUTE SALE PRICE BASED ON NUMBER OF BIDS AND PRICE SCHEDULE

(411) ISSUE ORDERS TO VENDOR FOR THAT NUMBER OF UNITS AT SALE PRICE

(412) DELETE BIDS FROM BID DATABASE AND PLACE IN ORDERS DATABASE

(413) REMOVE SALE FROM SALE DATABASE

YES

(414) ANY MORE "CLOSED" SALES ?

NO

RETURN

FIG. 4 β
SALE MANAGER

```
                         ┌──────────┐
                        (  START     )
                         └────┬─────┘
                              │
                              ▼
              ╱─────────╲          ACCEPTANCE          ╱──────────╲              YES      ┌──────────┐
             ╱  (501)    ╲───────────────────────────▶ ╱  (507)    ╲──────────────────────▶(  RETURN  )
             ╲ FORM TYPE ?╱                           ╲ REGISTERED ╱                        └──────────┘
              ╲─────────╱                             ╲ CUSTOMER ? ╱
                   │                                   ╲──────────╱
                   │ SUBMISSION                              │ NO
                   │                                         ▼
                   ▼                                  ┌──────────────┐
  ┌──────────┐   ╱──────────╲      NO                 │ (508)        │
  │ (503)    │◀─╱  (502)     ╲                         │ ADD          │
  │ ADD TO   │  ╲ REGISTERED ╱                         │ CUSTOMER TO  │
  │ CUSTOMER │  ╲ CUSTOMER ? ╱                         │ CUSTOMER     │
  │ DATABASE │   ╲──────────╱                          │ DATABASE     │
  └────┬─────┘        │                                └──────┬───────┘
       │              │ YES                                   │
       └──────────────┤                                       ▼
                      │                                ┌──────────────┐
                      │                                │ (509)        │
                      │                                │ ADD "INVITOR │
                      │                                │ ID " TO      │
                      │                                │ CUSTOMER     │
                      │                                │ RECORD       │
                      │                                └──────┬───────┘
                      │                                       ▼
                      │                                 ┌──────────┐
                      │                                (  RETURN   )
                      │                                 └──────────┘
                      ▼
              ╱──────────╲        NO       ┌──────────┐              ┌──────────┐
             ╱  (504)     ╲───────────────▶│ (505)    │─────────────▶(  RETURN  )
             ╲ VALID      ╱                │ RETURN   │              └──────────┘
             ╲ SUBMISSION?╱                │ ERROR    │
              ╲──────────╱                 │ MESSAGE  │
                   │                       └──────────┘
                   │ YES
                   ▼
              ┌──────────┐              ┌──────────┐
              │ (506)    │─────────────▶(  RETURN  )
              │ SEND OUT │              └──────────┘
              │ INVITATION│
              └──────────┘
```
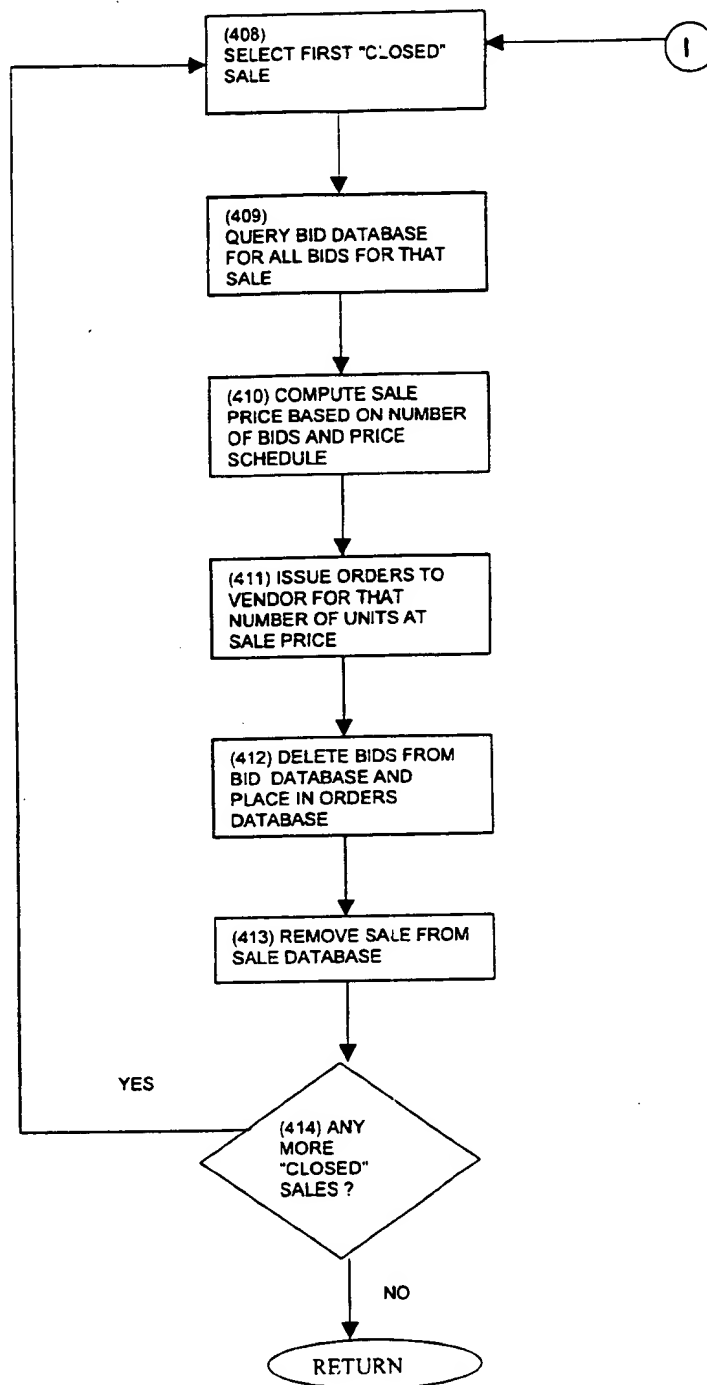
FIG. 5
INVITATION MANAGER

P C T

WIPO OMPI

34, chemin des Colombettes
1211 GENEVE 20, SUISSE